TS2500

Installation & User Guide

Compatible Equipment

NET LCD - Remote Keypad	TS900 NODE - 8 Zone Expander
NETSTAR - Remote Keypad	ID NODE - 30 Zone Expander
NETLED - Remote Keypad	XNODE - 8 Zone Expander
NETARM - Remote Keypad	CPA6 OM - Output Module
TS700 LEC - 2 Zone Expander	DC54/58/58M - Digital Communicators
LEC 6 - 6 Zone Expander	9040 - Loudspeaker
LEC 8 - 8 Zone Expander	NIB - Linedriver

System Overview

System Architecture

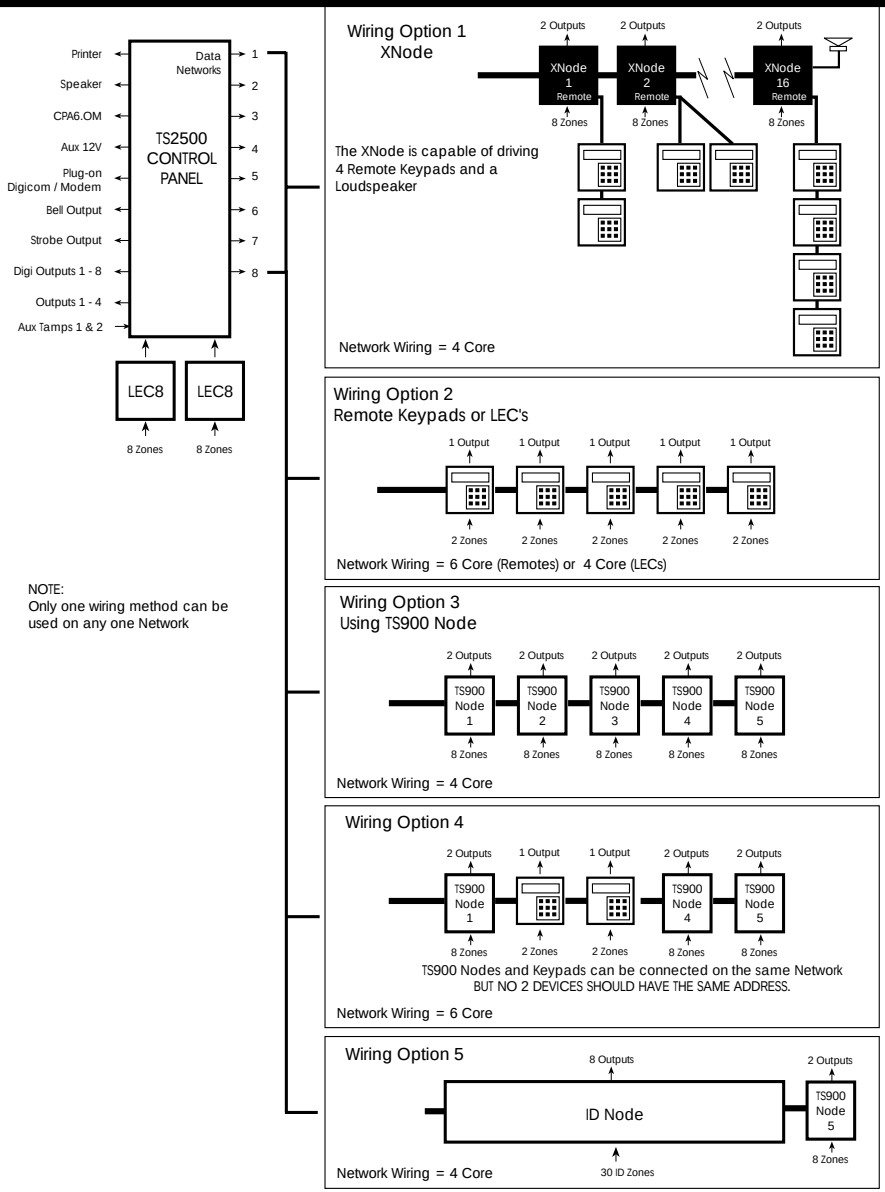


Figure 1: TS2500 System Architecture

Introduction

The TS2500 intruder alarm control system has been designed to suit medium to large installation sites. The TS2500 system can be expanded up to 1040 zones. The system is capable of "up" and "down" loading, allowing remote programming and interrogation via the telephone line and a P.C.

Complex site requirements such as multi-ward setting can be achieved, as the system is capable of being broken down into 16 separately controlled areas (Wards) so that the premises or parts of the premises can be controlled independently.

The TS2500 system is a true multi-tasking system, which allows up to a maximum of eight users operating the system simultaneously.

Control Panel

The control panel is the controlling unit for the system, it has a power supply and connections for a standby battery. It has the following facilities:

- 8 networks for connecting remote keypads and NODEs
- Connections for two 8 zone local expansion cards (LEC8)
- Two auxiliary tamper zones
- Bell and strobe outputs
- 4 programmable outputs (1 x Voltage free contacts and 3 high current transistorised)
- 8 programmable digicom/RedCARE outputs
- A connector for a Menvier Security plug-on digicom or digi-modem
- A connector for a printer via the MPA or DCI printer adaptor
- A connector for mimic modules (CPA6.OM)
- Extension loudspeaker output
- All system program information and the 4000 event log is stored in two removable non-volatile memory (NVM) devices

Remote Keypads

Up to 5 remote keypads can be connected when directly wired to the network. The XNODE also provides the facility to connect up to 4 remote keypads giving a system total of 512 remote keypads. Each remote keypad has two detection circuits and a single switched -ve output. The four types are:

32 Character LCD (NETLCD)

The NETLCD remote keypad has a back-lit 32 character super-twist Liquid Crystal Display (LCD) and a back-lit tactile rubber keypad. It also has a Loudspeaker output with a volume control pot. All system programming must be carried out from a NETLCD remote keypad.

8 Character Starburst (NETSTAR)

The NETSTAR remote keypad has a back-lit 8 character starburst display (LCD) and a back-lit tactile rubber keypad. This type of remote keypad is limited to setting and unsetting only, and cannot be used to program the system.

☞ *The display will always show the system time.*

4 Character LED (NETLED)

The NETLED remote keypad has a 4 character 7-segment LED display and back-lit tactile rubber keypad. This type of remote keypad is limited to setting and unsetting, and cannot be used to program the system.

☞ *The display will always show the system time.*

Remote Arming Station (NETARM)

The Remote Arming Station only allows setting and unsetting of the system. The unit has two indicator LED's, the "Power LED" and a programmable "Function LED" (the "Function LED" may be programmed as "Fault" or "Area Set" etc.).

Expansion Devices

There are several options for expanding the system:

TS700 LEC

The Local Expansion Card (LEC) provides two programmable detection circuits and one programmable switched -ve output. Up to 5 TS700 LECs can be connected on any one network.

TS900 NODE

The TS900 NODE provides eight programmable detection circuits and two programmable outputs (one switched +ve and one switched -ve). Up to 5 TS900 NODEs can be connected on any one network.

XNODE

The XNODE provides eight programmable detection circuits, two programmable outputs (one switched +ve and one switched -ve) and a loudspeaker output for driving a 16 Ohm loudspeaker. Each XNODE can also drive up to 4 remote keypads. Up to 16 XNODEs can be connected on any one network.

LEC8

The TSLEC8 Local Expansion Card (LEC) is designed to be fitted inside the control panel it provides 8 programmable detection circuits. The control panel will accept two LEC8s.

ID NODE

The ID NODE can be used as an alternative to the standard TS900 NODE. It provides a single ID Detector Loop for connection to 30 ID devices and 8 programmable outputs. Several options allow it to be used on its own or with existing TS900 NODEs.

Other Devices

Printer

A DATAC printer or any standard RS232 printer can be connected to the control panel to obtain system and log print-outs.

CPA6.OM Output Module

Each output module provides eight switched -ve outputs, the output modules can be daisy-chained together to provide multiples of eight outputs. The outputs can be used to indicate ward status information and/or circuit alarm/mimic indications.

DC54/58/58M Digicom and Digi-modem

A 4-channel DC54 or 8-channel DC58 digital communicator can be plugged onto the control panel to allow alarm status information to be transferred to a dedicated Alarm Receiving Centre. The 8 channel DC58M digi-modem can be plugged onto the control panel, which functions as a digital communicator and V21 modem. The modem facility is required when using the up/down loading feature.

NIB Networker Interface Board

A driver and receiver board that allows NODEs or remotes to be driven up to 1 Km.

Technical Specifications

Control Panel

Part No:	TS2500
Input Supply:	230V 10% 50Hz
Current:	220mA (normal) 300mA (alarm) with speaker
Power Supply:	1.5A
Standby Battery:	2 x 7.0Ah or 1 x 17Ah
Zones	2 to 1040
Panel Outputs:	1 = voltage free changeover 2 = Switched -ve @500mA 3 = Switched +ve @500mA 4 = Switched +ve @500mA
Digi Outputs 1-8:	+ve removed Source 5mA in 12V condition Sink 100mA in 0V condition
Speaker Output:	16 Ohms
Bell Trigger:	Switched -ve @500mA
Strobe Trigger:	Switched -ve @500mA
Dimensions:	384(W) x 312(H) x 95(D) mm
Material:	1.2mm mild steel
Weight:	4.9 Kg
Environment:	-10° to 55°C

LCD Remote Keypad

Part No:	NETLCD
Display:	32 Character Liquid Crystal
Current:	50mA (normal) 60mA (alarm)
Zones:	2
Output:	Switched -ve @100mA
Dimensions:	150(W) x 104(H) x 30(D) mm
Material:	3mm Polycarbonate
Weight:	282g
Environment:	-10° to 55°C

Starburst Remote Keypad

Part No:	NETSTAR
Display:	8 Character Liquid Crystal
Current:	50mA (normal) 60mA (alarm)
Zones:	2
Output:	Switched -ve @100mA
Dimensions:	150(W) x 104(H) x 30(D) mm
Material:	3mm Polycarbonate
Weight:	263g
Environment:	-10° to 55°C

LED Remote Keypad

Part No:	NETLED
Display:	4 character seven segment
Current:	60mA (normal) 70mA (alarm)
Zones:	2
Output:	Switched -ve @100mA
Dimensions:	150(W) x 104(H) x 30(D) mm
Material:	3mm Polycarbonate
Weight:	254g
Environment:	-10° to 55°C

Arming Station

Part No:	NETARM
Display:	Power LED Programmable function LED
Current:	30mA (normal) 40mA (alarm)
Zones:	2
Output:	Switched -ve @100mA
Dimensions:	150(W) x 104(H) x 30(D) mm
Material:	3mm Polycarbonate
Weight:	254g
Environment:	-10° to 55°C

TS700 LEC

Part No:	TS700.LEC
Current:	30mA (normal) 40mA (alarm)
Zones:	2
Output:	Switched -ve @100mA
Dimensions:	142(W) x 82(H) x 36(D) mm
Material:	3mm Polycarbonate
Weight:	213g
Environment:	-10° to 55°C

XNODE

Part No:	XNODE
Current:	60mA (normal) 60mA (alarm)
Zones:	8
Outputs:	A = Switched +ve @100mA B = Switched -ve @100mA
Speaker Output:	16Ohms
Dimensions:	128(W) x 182(H) x 34(D) mm
Material:	3mm Polycarbonate
Weight:	370g
Environment:	-10° to 55°C

TS900 NODE

Part No:	TS900.NODE
Current:	60mA (normal) 60mA (alarm)
Zones:	8
Outputs:	A = Switched +ve @100mA B = Switched -ve @100mA
Dimensions:	128(W) x 182(H) x 34(D) mm
Material:	3mm Polycarbonate
Weight:	370g
Environment:	-10° to 55°C

ID NODE

Part No:	IDNODE
Current:	80mA (with 1 device) 160mA (with 30 devices)
Zones:	30 (ID)
Outputs:	A = Switched +ve @100mA B = Switched +ve @100mA C = Switched +ve @100mA D = Switched +ve @100mA E = Switched -ve @100mA F = Switched -ve @100mA G = Switched -ve @100mA H = Switched -ve @100mA
Dimensions:	128(W) x 182(H) x 34(D) mm
Material:	3mm Polycarbonate
Weight:	370g
Environment:	-10° to 55°C

LEC8

Part No:	LEC8
Current:	20mA (normal) 20mA (alarm)
Zones:	8
Dimensions:	89(W) x 71(H) x 15(D) mm
Weight:	69g
Environment:	-10° to 55°C

System Installation

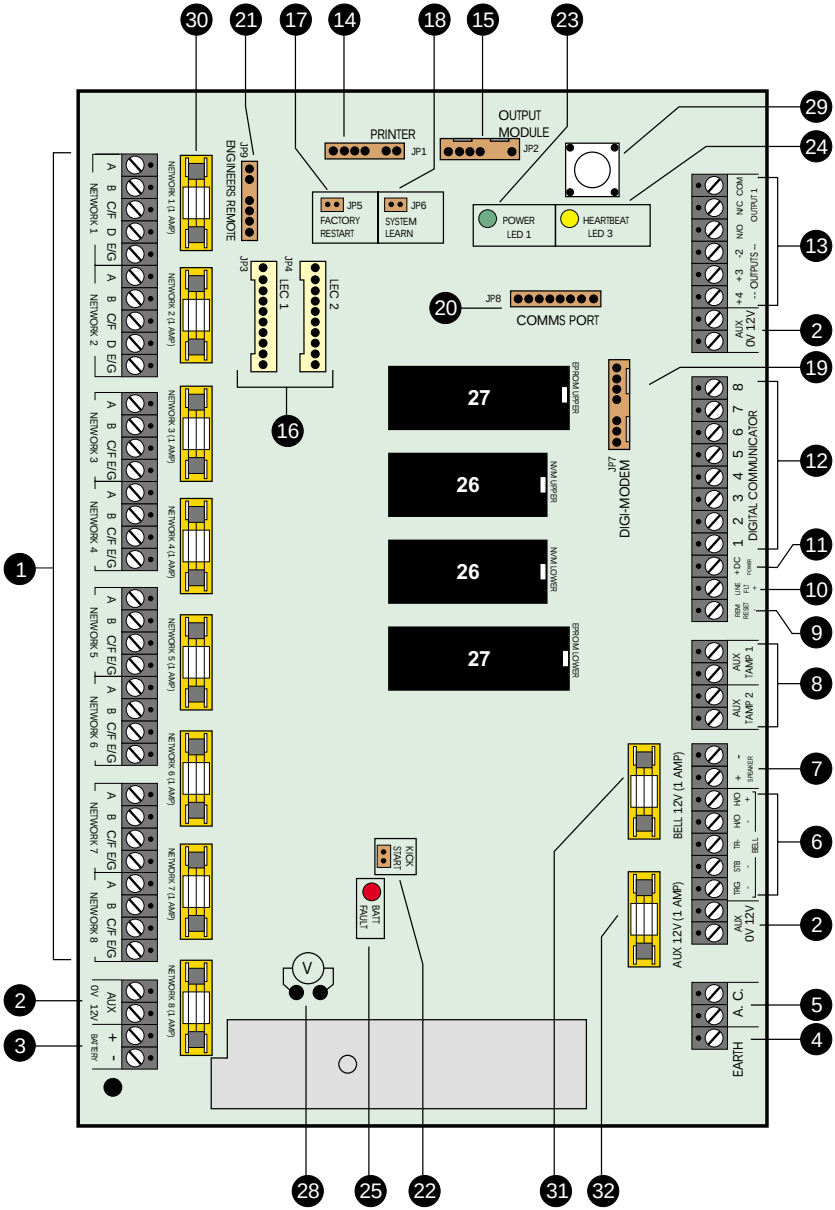


Figure 2 Main PCB Layout

Connection Terminals, Plugs & Indicators

The main PCB has the following connectors etc.

1 Networks 1-8
Data networks for connecting NODEs, remote keypads and LECs. Each network is protected by its respective fuse (30), the fuse is in-line with the [A] connection of the network

2 Auxiliary 12V
Three sets of auxiliary 12V terminals are provided on the main PCB, each set provides dc power for detectors etc. These outputs are protected by a 1A fuse (32).

3 Battery Terminals
Connection terminals for the red and black battery leads supplied inside the spares pack.

4 Earth Terminal
Connection to mains earth.

5 AC Input Terminals
The output from the mains transformer is connected into these two terminals.

6 External Sounder Terminals
This group of terminals are used for connection to an external sounder.

7 Speaker Terminals
Up to two 16 ohm extension loudspeakers can be connected across these two terminals. The volume is controlled via a programming option.

8 Auxiliary Tampers 1 & 2
These terminals provide tamper protection to auxiliary devices such as remote power supplies, extension loudspeakers etc. If they are not used they must be linked out.

9 Remote Reset Input
After a full alarm the system will require resetting, normally this is done by the engineer or via coded remote reset. By applying a -ve to this input terminal it will cause the system to reset after a full alarm. This input could be connected to the "Control" output on a RedCARE STU so that the central station can provide a "Remote Reset" facility.

10 Line Fault Input
When this input is applied with a +ve signal the system will generate a "Line Fault" condition. In the unset condition the system will generate a "Chime" tone every minute. In the set condition any programmed bell delay is cancelled.

11 +DC Power
This terminal provides the +12V power to the stand-alone digital communicator or RedCARE STU. This output is un-fused and therefore must only be used if the device is fitted inside the control panel housing.

12 Digicom Outputs 1 to 8
These are programmable outputs and are normally connected to the input channels on a stand-alone digital communicator or RedCARE STU. The outputs are normally at +12V and switch to 0V when active. The outputs can be inverted so that they switch from 0V to +12V when active Each output will source 5mA in the +12V condition and sink 100mA in the 0V condition.

13 Panel Outputs 1 to 4
These are programmable outputs that can be used to drive relays and auxiliary equipment. Output [1] is a set of voltage free change over contact rated at 1Amp. Output [-2] is a switched negative output rated at 500mA. Outputs [+3] and [+4] are switched positive outputs rated at 500mA.

14 Printer Output Port (JP1)
This 6-pin plug is used for connecting to either a CPA6 printer or a standard RS232 printer via the DCI/MPA printer adaptor.

15 Output Module (JP2)
Output modules type CPA6.OM can be connected to this 5-pin plug, and are used to provide switched -ve outputs to LED's/relays etc. The outputs can be programmed such that they give ward status information and/or circuit mimic/alarm indications.

16 LEC 1 (JP3) / LEC 2 (JP4)
Two LEC8 PCBs can be connected via an interface lead to these connectors. The interface lead is provided with the LEC8.

17 Factory Restart (JP5)
If these pins are shorted during power-up all system parameters are reset to their factory default settings. If the engineer's passcode is lost or forgotten it can be reset to 1234 without losing any other program data as follows:

(a) Ensure that the system is fully unset and a user passcode is available.

(b) Remove the cover from the control panel, this will cause a panel lid tamper alarm.

(c) Enter a user passcode to silence the alarm.

(d) Place the blade of a small screwdriver between the "FACTORY RESTART" pins. A multi-tone sound indicates that the engineer's passcode has been reset. This action will be recorded in the system log.

18 System Learn (JP6)
If these pins are shorted whilst the system is powered, the control panel will re-learn all devices on all eight networks. If after a system learn the number of devices or device types have changed the display will show "RELEARN REQUIRED". In order to clear this message you must confirm the number of network device using the "Confirm Network Devices" option.

19 Digi-Modem Plug (JP7)
A plug-on digicom or digi-Modem may be connected to this 7-pin plug to allow panel alarm information to be transferred to an alarm receiving centre. The digi-Modem is used for remote communication and programming via a PCI/DCI lead also available, which connects to this plug when using a P.C. with Lineload software for direct communication with the control panel.

20 Comms Port (JP8)
High speed serial communications port COM1 (for future use).

21 Engineer's Remote Keypad Plug (JP9)
Normally all system programming will be carried out from one of the installed remote keypads. However, an engineers remote keypad can be temporarily connected to this 6-pin plug to allow programming and testing to be carried out at the control panel. This feature can only be used if Network 1 does not have any XNODEs connected to it, or any keypads addressed as 'ENG' or LECs addressed as 'NULL'.

22 Kick Start (JP10)
If the system is to be powered only from the battery (no mains supply available) then the "Kick Start" pins must be momentarily shorted to enable the battery.

23 Power LED
This LED indicates that the system power (mains or battery) is healthy.

24 Heartbeat LED
When the system is functioning correctly this LED will continually flash on and off. If a fault occurs on the main PCB this LED will stop flashing.

25 Battery Fault
If the system battery is incorrectly connected to the control panel the "Battery Fault" LED will illuminate. The fault LED will only extinguish when the battery has been correctly connected or replaced.

26 NVM Upper & Lower
Two removable non-volatile memory (NVM) devices that store all system program parameters and the 4000 log events.

27 EPROM Upper & Lower
Two removable memory devices that store the operating software for the TS2500 system.

28 System Current Measurement (V)
The system current consumption can be calculated by measuring the voltage across this test point on the main PCB. Using a Voltmeter set to a low Voltage range measure the Voltage across the test point and multiply the reading by 10 to give the Total system current consumption i.e. a reading of 70mV = 700mA.

29 Tamper Switch
The lid tamper protection for the control panel.

30 Network Fuses 1 to 8
The supply voltage across [A] and [B] terminals each network is protected by its own fuse (1Amp).

31 Bell Fuse
The supply voltage across the [H/O+] and [H/O-] terminals that supply the external sounder is protected by this 1 Amp fuse.

32 Aux 12V Fuse
The supply voltage across the auxiliary 12V terminals are protected by this 1 Amp fuse.

DC54/DC58 Plug-on Digicoms

A plug-on digital communicator DC54 or DC58 can be fitted inside the control panel to allow alarm status information to be transferred to a dedicated Alarm Receiving Centre. The unit should be fitted in accordance with the installation instructions supplied with it and connected to the control panel plug DIGI-MODEM (JP7) using the lead provided with the unit. The NVM within the digicom can be programmed via the control panel.

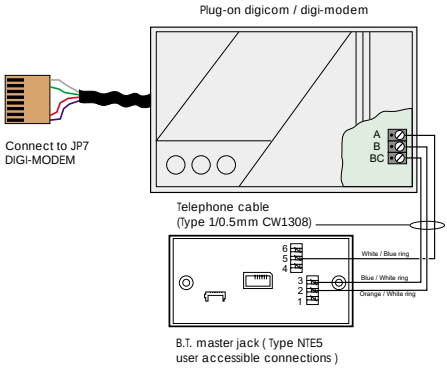


Figure 3 DC54/DC58 Connections

DC58M Plug-on Digi-Modem

A plug-on digi-modem DC58M can be fitted inside the control panel to allow remote interrogation and programming via a personal computer (PC). It will also function as a standard digicom (if required). The unit should be fitted in accordance with the installation instructions supplied with it and connected to the control panel plug DIGI-MODEM using the lead provided with the DC58M. The NVM within the digi-modem can be programmed via the control panel . The modem data is also programmed via the control panel.

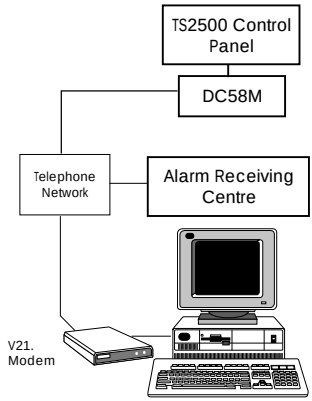


Figure 4 DC58M Digi-modem Schematic

Output Modules

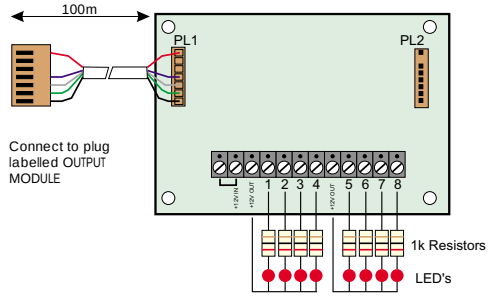


Figure 5 Output module Connections

The Output Module provides eight switched -ve outputs each rated at 100mA. They can be used to drive LED's or relays etc. Each module is supplied with an interface lead which allows it to be connected to the control panel or XNODE. Output modules are normally fitted inside the equipment they are controlling and can be positioned up to 100 metres away.

Control Panel Connections

When connected to the control panel the output modules can be programmed to give ward status indications and/or circuit mimic/alarm indications.

XNODE Connections

When connected to the XNODE, the output module will provide circuit mimic indications for the eight detection circuits of the XNODE.

Network Wiring

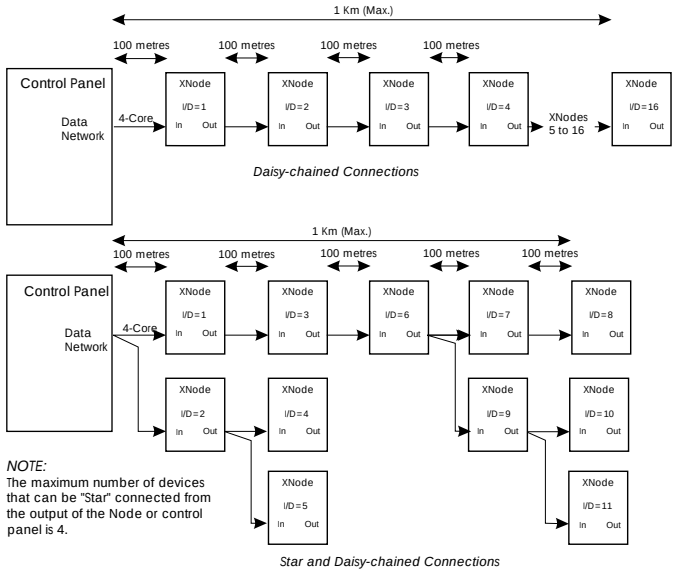


Figure 6 XNODE Connection Methods

XNODE Wiring

The XNODE requires a 4 core cable for interconnection, and up to 16 may be connected in a "daisy-chain" or "star" configuration. The distance between each XNODE must not exceed 100 metres. The total distance to last XNODE must not exceed 1000 metres. Power for detectors is provided by the Aux. +/- terminals.

Wiring Remote Keypads to an XNODE

Up to four remote keypads can be connected to each XNODE, they can be connected in either a "star" or "daisy-chain" configuration. The distance to the furthest remote keypad from the XNODE must not exceed 100 metres. Power for detectors are provided by the A(+) and B(-) terminals.

The detection circuits in the XNODE can either be mapped to the XNODE or the the remote keypads by setting the 4-way "Remote Zone Enable" switch as shown in the table above:

Switch	OFF	ON
1	XNODE circuits A & B enabled	Remote keypad 1 circuits A & B enabled
2	XNODE circuits C & D enabled	Remote keypad 2 circuits A & B enabled
3	XNODE circuits E & F enabled	Remote keypad 3 circuits A & B enabled
4	XNODE circuits G & H enabled	Remote keypad 4 circuits A & B enabled

☞ *Remote keypads cannot be multi-tasked between each other when connected to the XNODE, i.e. If remote keypad 1 is in operation, remote keypads 2, 3 and 4 are locked-out and will show "SYSTEM IS BUSY PLEASE WAIT".*

☞ *The remote keypads follow the ward assignment of the XNODE, i.e. If the XNODE is assigned to ward A then remote keypads 1-4 connected to that XNODE are also assigned to ward A.*

☞ *The loudspeaker and remote keypad sounders will follow the ward assignment of the XNODE.*

☞ *The programmable output on the remote keypads are mapped as follows: Remote keypads 1 and 3 follow XNODE output A and remote keypads 2 and 4 follow XNODE output B.*

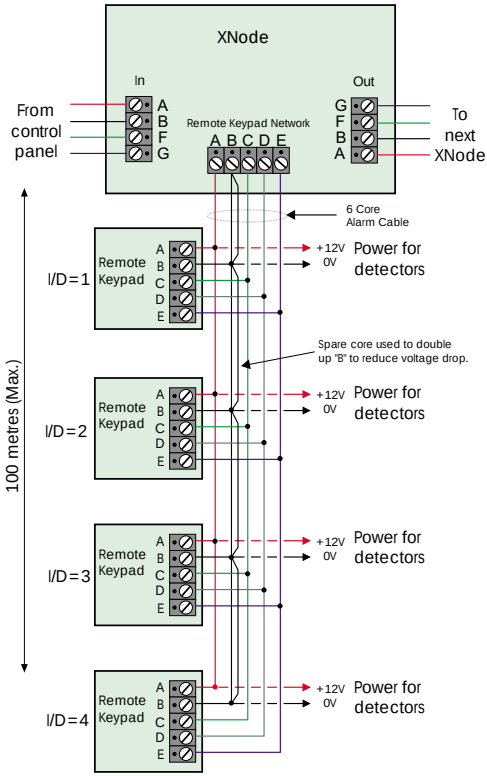


Figure 7 Wiring Remote Keypad to an XNODE

TS900 NODE Wiring

TS900 NODE requires a 4 core cable for interconnection, and up to 5 may be connected in a "daisy-chain" or "star" configuration to any one network. The distance between each NODE must not exceed 100 metres and the total distance to last NODE must not exceed 500 metres. Power for detectors is provided by the Aux. +/- terminals.

The TS900 NODE has two programmable outputs, each rated at 100mA, output[A+] is a switched +ve output and output [B-] is a switched -ve. The outputs can be used to drive sounders or relays etc.

☞ *No two devices should have the same address (I/D).*

☞ *The maximum number of devices is five.*

Wiring NODEs and Remote Keypads

The TS900 NODE and remote keypads can be connected on the same network. The network must be wired in 6-core cable to allow the remote keypad internal sounders to operate.

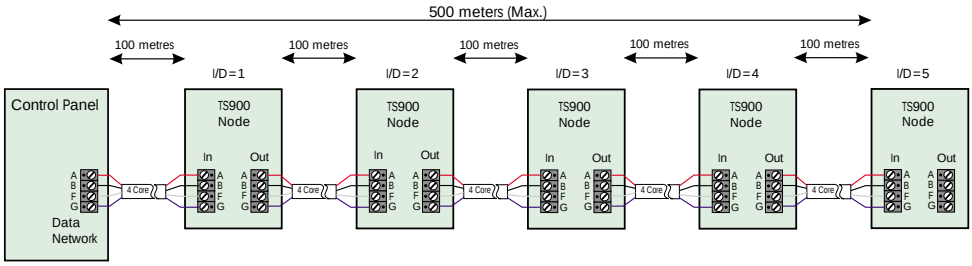
☞ *No two devices should have the same address (I/D).*

☞ *This method of connection is designed for networks 1 and 2. Although it can be used on other networks, the "D" connection for the remote keypads will have to be taken from networks 1 or 2.*

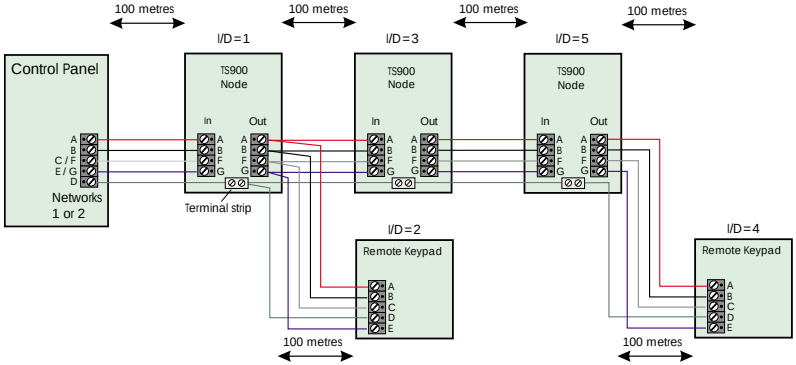
☞ *The sounder on the remote keypads will follow the control panel sounder.*

☞ *Remote keypads cannot be multi-tasked between each other on the same network when using this method of connection.*

☞ *The maximum number of devices is five.*



TS900 Node Connections



TS900 Nodes and Remotes Connected on the same Network

Figure 8 TS900 NODE Wiring Options

Remote Keypads and TS700.LECs

Up to 5 remote keypads or TS700.LECs can be connected on any network. The devices may be wired in a "daisy-chain" or "star" configuration. When using remote keypads the network must be wired in 6-core cable.

If all devices on the network are TS700.LECs the network can be wired in 4-core as the "D" connection is not required.

☞ *No two devices should have the same address (I/D).*

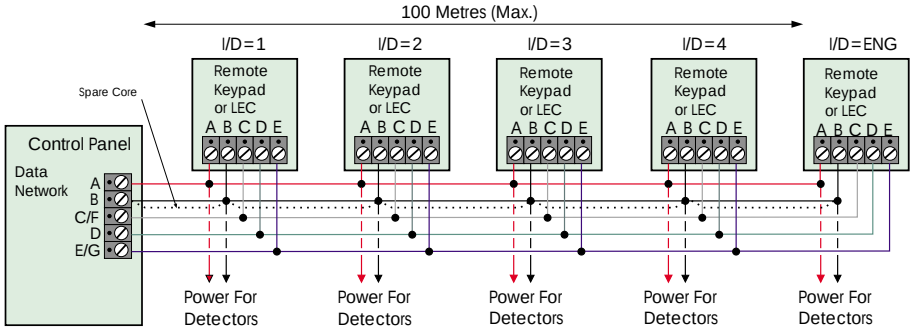


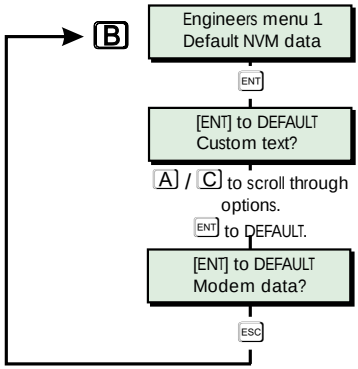
Figure 9 Wiring Remote Keypads or TS700.LECs

Wiring Detection Circuits

All detection circuits may be wired as "End of Line" (EOL) OR "Double Pole" (DP). Both methods can be used on the same equipment. Please refer to Network Devices, Wiring Section for more details.

Default NVM Data [1-B]

The default NVM data option allows the engineer to reset the NVM data back to the factory defaults. The initialisation procedure has been broken down into specific sections so that the engineer can reset all data or specific areas.



Reset User Code Flowchart

Default Table

Section	Option	Default
Custom Text	Reset Message	CALL ENGINEER TO RESET SYSTEM
	Location Text	PANEL LOCATION TEXT NOT SETUP
	Printer Header	MENVIER SECURITY TS2500 SYSTEM
	Printer Prefix	Blank
	Banner Message	Blank
	Part Set Banner	Blank
	Aux Tamper 1	Blank
	Aux Tamper 2	Blank
	Remote Reset Msg	RING A.R.C FOR REM. RESET CODE
	Modem String	Blank
Modem Data	Call Back No.1	Blank
	Call Back No.2	Blank
	Call Back No 3	Blank
	Modem Password	Blank
	Modem Site No.	Blank
User Codes	User 000 Engineer	1234
	User 001 Master	5678
	User 002 - 199	Not used
Configuration	00	Bell is an SAB
	01	View alms P.Set
	02	Duress Disabled
	03	Engr Authorised
	04	On-Line Enabled
	05	Lo-sec Engineer
	06	Normal answer
	07	Unset ward first
	08	Can set with L.F.
	09	Can set - AC off
	10	Quiet chimes
	11	O/P 1 normal
	12	Digi normal
	13	4 digit codes
	14	Modem on Com1
	15	Chime Audible
	16	Manual Omits
	17	Omits Tampers No
	18	O/M's mimic cct
	19	Log Time & Date
	20	Global Setting

Section	Option	Default
Configuration	21	Global Unsetting
	22	24hr Omit Global
	23	Ward bell time
	24	Latching Fire
	25	Online Printing
	26	Timed code o/p
	27	Activity flt ok
	28	Latching 24hr
	29	Access code only
	30	Answer anytime
	31	NVM is Unlocked
	32	Unshunt & No exit
	33	Ignore errors
	34	Mimic. All times
Outputs	Panel Output 1	Walk Test
	Panel Output 2	Courtesty Light
	Panel Output 3	Switch 12 Volts
	Panel Output 4	Detector Reset
	Digicom Output 1	Fire Alarm
	Digicom Output 2	Panic Alarm (PA)
	Digicom Output 3	Alarm
	Digicom Output 4	System Set
	Digicom Output 5	Engineer on site
	Digicom Output 6	Bell (SAB)
	Digicom Output 7	Tamper Alarm
	Digicom Output 8	2nd Alarm
	Digi Channel 1	Fire Alarm
	Digi Channel 2	Panic Alarm (PA)
	Digi Channel 3	Alarm
	Digi Channel 4	System Set
	Digi Channel 5	Engineer on site
	Digi Channel 6	Bell (SAB)
	Digi Channel 7	Tamper Alarm
	Digi Channel 8	2nd Alarm
	All NODE Outputs	Circuit 0001 Alarm
	All Remote Outputs	Circuit 0001 Alarm
	Custom Outputs 1-8	Circuit 0001 Alarm
Setting Modes	All Wards	Timed Exit
System Timers	Exit time wards A-P	030 Seconds
	Entry dly wards A-P	015 Seconds
	Digi dly wards A-P	000 Seconds
	Bell dly wards A-P	000 Minutes
	Bell dur wards A-P	020 Minutes
	Exit settle time	005 Seconds

Section	Option	Default
System Timers	2nd Entry delay	015 Seconds
	Double Knock dly	010 Seconds
	Abort duration	010 Seconds
	Abort delay	180 Seconds
	2nd alarm Time	060 Seconds
	Courtesy time	120 Seconds
	Access code time	005 Seconds
	Menu time-out	180 Seconds
	Line fault delay	030 Seconds
	AC off delay	030 Seconds
	Monitor cct time	060 Seconds
	Beam pair time	010 Seconds
	Battery test dur	030 Seconds
	Answer ring time	030 Seconds
	Global bell dly	000 Minutes
	Global dell dur	020 Minutes
	Activity delay	060 Minutes
	Defer setting by	010 Minutes
	Battery test	060 Minutes
	Hi Security time	000 Minutes
	Cct test time	014 Days
	Service time	000 Days
	Payment time	000 Days
	Test call every	000 Days
	Select menu time	010 Seconds
	Custom o/p 2 Tmr	000 Seconds
	Number of reams	003
	Modem rings	000
	Keys unit tamp	017
	Remote resets	032
	Reset algorithm	004
	Double Knock	002

Section	Option	Default
Time Switches	On times 1,2 & 3	00:00
	Off times 1, 2 & 3	00:00
	Timers operate on	No days
	Time switch output	Off
Code Locks	On times 1, 2 & 3	00:00
	Off times 1, 2 & 3	00:00
	Timers operate on	No days
	Time lock output	Off
	User assigned	None
Auto-set Times	Set times 1, 2 & 3	00:00
	Unset times 1, 2 & 3	00:00
	Timers operate on	No days
	Wards assigned	None
Custom Circuits	Circuits 1-8	Not defined
Circuits	Circuits 0001 - 8128	Not Used
Equipment Wards	Panel tamper	Ward A
	Bell box tamper	Ward A
	Aux 1 tamper	Ward A
	Aux 2 tamper	Ward A
	Phone line fault	Ward A
	Mains power off	Ward A
	Payment timer	Not assigned
	Alarms Eng Reset	Not assigned
	Tamper Eng Reset	Ward A
	Remote reset	Ward A
	Panel speaker	Ward A
	Relearn required	Not assigned
	Re-arms apply to	Ward A
	Hi Security ward	Not assigned
	Relearn Required	Not assigned
	Re-arms apply to	Ward A
	Hi Security ward	Not assigned
	Digi in Part Set	Wards A-P
	System Bell/STB	Wards A-P
	Ward A foyer Mode	Not assigned
	Unset fire sig.	Not assigned
	Dble knock wards	Not assigned
Net Equipment	All new devices	Ward A
Part Set Group	Part set groups 0-9	Not Defined
Log	All 4000 Events	No Event

Log Event Codes

Event	Description
—- NO EVENT —-	No event
#### ACTIVATED	Monitored circuit activated
#,## LEC LOST	Network #, device No. ## is a LEC that has been removed
### LEC or REM'S	The number of LEC or REM's logged on to system after a re-learn
#,## NODE ADDED	Network #, device No. ## is a TS900 NODE that has been added to the system
#,## NODE LOST	Network #, device No. ## is a TS900 NODE that has been removed
### NODE'S	The number of TS900 NODEs logged on to the system after a re-learn
### XNODE'S	The number of XNODEs logged on to the system after a re-learn
#### OFF TEST	Circuit number #### taken off test
#### OMITTED	Circuit number #### omitted
#### REINSTATED	Circuit number #### reinstated
#,## REM ADDED	Network #, device No. ## is a remote keypad that has been added to the system
#,## REM LOST	Network #, device No. ## is a remote keypad that has been removed
#### SHUNTED	Circuit number #### shunted
#,## XNODE ADDED	Network #, device No. ## is a XNODE that has been added to the system
#,## XNODE LOST	Network #, device No. ## is a XNODE that has been removed
24Hr ALARM ####	24hr alarm from circuit number ####
24Hr OMITTED:	24Hr group omitted in wards:- A - P
24Hr REINSTATED:	24Hr group reinstated in wards:- A - P
24Hr WARDS:-	24hr Alarm on wards:- A - P
ABORT ON WARDS:-	Alarm aborted on wards:- A - P
ABORTED ERRORS	Remote service errors
ACCESS ###	Access passcode ### entered.
ACCESS FAILED	Access failed due to code lock in operation
ALARM ####	Alarm from circuit number ####
ALARM WARDS:-	Alarm in wards:- A - P
AUTOSET # OFF	Autoset timer 1-3 off
AUTOSET # ON	Autoset timer 1-3 on
AUXILIARY ####	Auxiliary alarm from circuit number ####
AUXILIARY # TAMP	Auxiliary 1 or 2 tamper
AUXILIARY FUSE	Auxiliary Fuse failed
BATTERY FAULT	Battery disconnected or voltage level below 9.5V
BATTERY RESTORE	Battery restored to healthy condition
BEAM PAIR ####	First activation of a beam pair circuit number ####
BELL BOX TAMPER	External sounder/bell tamper
BELL TESTED:-	Bell tested for wards:- A - P
BELLS ACTIVE:-	Bell active for wards:- A - P
CALL ABORTED	Remote service call aborted
CALLED No. #	Remote service call initiated via panel to remote PC 1, 2 or 3
CALLING BACK No. #	Remote service call requested via PC to “Call back No” 1, 2 or 3
CCT ON TEST ####	Circuit number #### put on test
CCT TESTED ####	Circuit number #### tested during walk test routine
CCTS REINSTATED	Circuits reinstated with a shunt code
CIRCUITS SHUNTED	Circuits shunted with a shunt code
CODE LOCK # OFF	Code lock number # is off
CODE LOCK # ON	Code lock number # is on
CODE LOCKED ###	User number ### attempted to use their passcode whilst locked-out

Event	Description
CODE TAMPER	Keypad locked out for 5 minutes due to invalid entry of passcode
COMMS FAILED	Plug-on digicom failed to communicate with ARC
COMMS SUCCESSFUL	Plug-on digicom communicated successfully with the ARC
DATE CHANGED	System date changed
DEFAULT USER ###	User 001 defaulted to 5678
DEFERRED SET:-	Deferred set on wards:- A - P
DIGI-COM FITTED	Plug-on digicom fitted
DIGI/MODEM LOST	Plug-on digicom or modem removed
DIGI/MODEM RESET	Plug-on digi-modem reset
DURESS CODE ###	Duress alarm from user number ###
ENGINEER ARRIVES	Engineer is logged on the system
ENGINEER DEPARTS	Engineer is logged off the system
ENTRY ####	Entry mode started from circuit number ####
ENTRY TIME-OUT:-	Entry mode timed out for wards:- A - P
ENTRY WARDS:-	Entry on wards:- A - P
EXIT CANCELLED:-	Exit mode cancelled for wards:- A - P
EXIT STARTED:-	Exit mode started for wards:- A - P
FACTORY RESTART	Factory defaults loaded
FIRE ALARM ####	Fire alarm from circuit number ####
FIRE WARDS:-	Fire alarm on wards:- A - P
FIRST KNOCK ####	First activation of circuit number #### (circuit with Double-Knock attribute)
From Remote #,##	Quick set performed from remote keypad (# = Network, ## =device No)
Hi Security SET:	Wards A - P set using “High Security” feature
LEC #,## TAMPER	Network #, LEC number ## lid tamper alarm
LINE RESTORE	Telephone line restored to healthy
LINK ESTABLISHED	Remote link via PC established
MAINS POWER OFF	Mains power removed from control panel
MAINS POWER ON	Mains power applied to control panel
MENU TIMEOUT ###	User number ### entered their passcode and did not selected any functions
MODEM FITTED	Plug-on digi-modem fitted
MODEM LOCK-OUT	Modem locked-out (4 failed attempts made via Lineload)
NODE ### R# ADD	Remote keypad added to XNODE
NODE ### R# LOST	Remote keypad removed from XNODE
NODE ### R# TAMP	Remote keypad lid tamper from remote on XNODE
NODE #,## FUSE	TS900 NODE fuse failed
NODE #,## TAMPER	TS900 NODE lid tamper
NODE SHUNT ####	Circuits shunted on a NODE
ON-LINE ENDED	Remote service call ended (PC and Lineload)
ON-LINE TO No.#	On-line to remote PC
ON-SITE RESTART	On-site restart
PA ALARM ####	PA Alarm from circuit number ####
P.A CODE ###	PA code from user number ###
PA WARDS:-	PA alarm on wards:- A - P
PANEL LID TAMPER	Control panel lid tamper
PASSCODE ###	User number ### entered their passcode
PAYMENT EXPIRED	System payment timer has expired
PC CONNECTED	PC connected to control panel (PCI/DCI)
PC DISCONNECTED	PC disconnected from control panel (PCI/DCI)

Event	Description
PHONE LINE FAULT	Telephone line fault detected
QUICK SET KEY #	Quick set key A, B or C activated
Q.SET ABORTED	Quick set key aborted
REARM ON WARDS:-	Wards:- A - P re-armed
REINSTATED WARDS	Wards A - P reinstated
REM #,## TAMPER	Remote keypad lid tamper
REM RESET ACTIVE	Remote reset via the REM RESET input terminal (RedCARE)
REM RESET FAILED	Remote Reset failed
REM SERVICE CALL	Remote service call in progress
RESET WARDS:-	User or engineer has reset wards:- A - P
SEC. KEY ####	Security key operated on circuit number ####
SERVICE CALL END	Remote service finished
SERVICE REQUIRED	System requires a service visit (Service Timer expired)
SET FAIL WARDS:-	Set fail for wards:- A - P
SET FAIL ####	Set fail caused by circuit ####
SET NO ACTIVITY	System was set with inactive circuits (circuits with the activity attribute)
SET WARDS:-	Wards set:- A - P
SET WITH L.FLT:-	Wards A - P set with a line fault present
SETTING DEFERRED	Setting deferred
SHUNT CODE ###	Shunt code number ### entered their passcode
SHUNT KEY ####	Shunt key circuit #### operated
SYSTEM RELEARN	A system relearn has been performed
T.SWITCH # OFF	Time switch number # off
T.SWITCH # ON	Time switch number # on
TAMPER ####	Tamper alarm from circuit number ####
TAMPER WARDS:-	Tamper alarm on wards:- A - P
TEST FAIL ####	Circuit number #### failed whilst on test
TEST TOTAL ####	Total number of circuit tested during walk test
TIME CHANGED	System time changed
UNSET WARDS:-	Wards:- A - P unset
USER ### DELETED	User number ### deleted
WALK TESTED:-	Wards:- A -P walk tested
WARD KEY ####	Ward key circuit #### operated
WARDS LOCKED:-	Wards:- A - P locked via security key circuit
WARDS UNLOCKED:-	Wards:- A - P unlocked via security key circuit
XNODE #,## FUSE	XNODE fuse failed
XNODE #,## TAMP	XNODE lid tamper

Key Functions

Engineer's Reset

1. Key in engineer code default 1234. Display shows "Engineer's Menu 1".
2. Press [ESC] display shows "Engineer Onsite".

This message will be cleared the next time a valid user passcode is entered or by exiting the engineer's menu 1 by pressing [C] and then [ENT].

Relearn Required Message

When the system is powered up after a factory restart, the remote keypads will display "RELEARN REQUIRED". On entering your engineer's passcode the system will automatically select the "Confirm Network Devices" option. After confirming the correct number of devices the "RELEARN REQUIRED" message will be cleared. Once cleared, entering your engineer's passcode will select "Engineer's Menu 1".

Resetting the Engineer's Passcode

If the installation engineer has inadvertently changed the engineer's passcode or the passcode has been forgotten, the passcode can be reset back to 1234 without losing any other programmed data. This procedure can only be used providing a user passcode is available:

1. Ensure that the system is unset and a user passcode is available.
2. Remove the cover from the control panel, this will cause a "Panel Lid Tamper" alarm.
3. Ask the user to enter their passcode to silence the alarm.
4. Place the blade of a small screwdriver between the pins labelled "FACTORY RESTART". A multi-tone sound indicates the engineer's passcode has been reset.
5. Replace the control panel cover. At the remote keypad enter 1234. The display will show "Engineer's Menu 1".

Loading Defaults

To return panel to factory defaults:

1. Power down panel
2. Short factory restart pins
3. Power up battery & mains
4. Remove short
5. Enter 1234 to silence sounders
6. Replace the control panel cover. At the remote keypad enter 1234. The display will show "Engineer's menu 1".

Initial Power-Up

To power up the system for the first time:

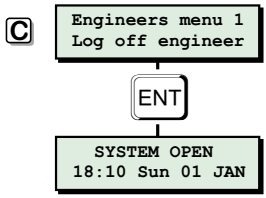
1. Place a small screwdriver blade between the pins on the control panel PCB, marked "FACTORY RESTART". This will ensure the factory default parameters are set.
2. Switch on the 230V mains supply and remove the screwdriver blade after 5 seconds.
3. Check that the power LED on the control panel PCB is illuminated.
4. Check that the remote keypads display "Panel Lid tamper". The remote keypad sounders and extension loudspeakers will be operated.
5. Enter the engineer's passcode (default 1234) to silence the sounders.
6. Connect the standby battery.

Bell Test/Walk Test

Please refer to User Menu 1, No's 1 & 2 respectively.

Log Off Engineer

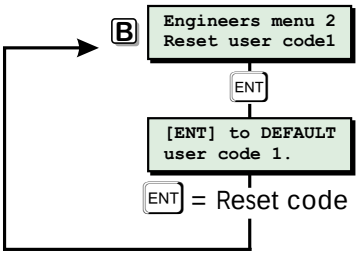
Selecting this option will log off all engineers and return the system to the "SYSTEM OPEN" condition.



Log Off Engineer flowchart

Reset User Code 1

This option allows the installation engineer to reset the master user (user 01) back to the factory default code of "5678". This feature is useful when the master user has forgotten their passcode or has accidentally changed it without realising. This operation is logged.



Reset User Code Flowchart

Programming Text

When programming any text the keys on the keypad function as shown below: Cursor Types

[^] This is the normal text editing cursor. Use the text editing keys as shown below.

[|] This is the number cursor. Use the numbered keys 0 - 9 to enter numeric data.

[+] This is the insert cursor. Use text editing keys as shown above to insert text at the cursor.

[-] This is the delete cursor. Use key [7] to delete from the left of the cursor and key [9] to delete from the right of the cursor.

1 = A	2 = E	3 = I
4 = O	5 = U	6 = 0 (zero)
7 = Move cursor left	8 = Change case	9 = Move cursor right
ENT = Accept text	0 = Space	ESC = Abandon text editing
A = Up the alphabet	B = Change cursor	C = Down the alphabet

Text Editing Keys

Common Key Sequences

Character	Key Sequence	Character	Sequence
A	1	U	5
B	1A	V	5A
C	1AA	W	5AA
D	2C	X	5AAA
E	2	Y	5AAAA
F	2A	Z	5AAAAA
G	2AA	:	1CCCCCCC
H	3C	;	1CCCCCC
I	3	<	1CCCCC
J	3A	=	1CCCC
K	3AA	>	1CCC
L	3AAA	?	1CC
M	4CC	@	1C
N	4C	!	0A
O	4	"	0AA
P	4A	#	0AAA
Q	4AA	$	0AAAA
R	4AAA	%	0AAAAA
S	5CC	&	0AAAAAA
T	5C		

Engineer's Quick Reference

Engineers Menu 1

Hotkey	Options
1	**Program Panel Outputs** 1 = Panel Output 1 (relay) 2 = Panel Output 2 (-ve) 3 = Panel Output 3 (+ve) 4 = Panel Output 4 (+ve)
2	**Program Digicom Outputs** 1 = Output 1 — 5 = Output 5 2 = Output 2 — 6 = Output 6 3 = Output 3 — 7 = Output 7 4 = Outrput 4 — 8 = Output 8
3	**Program Digicom Channels** 1 = Channel 1 — 5 = Channel 5 2 = Channel 2 — 6 = Channel 6 3 = Channel 3 — 7 = Channel 7 4 = Channel 4 — 8 = Channel 8
4	**Program Circuits, Attributes & Wards** Circuit Types 0 = Not Used — 8 = Exit Terminator 1 = Night — 9 = Ward Key 2 = 24 Hour — A/C = Shunt Key 3 = PA Silent — A/C = Tamper 4 = PA Audiible — A/C = Security 5 = Fire — A/C = 24hr Silent 6 = Auxiliary — A/C = Night Perimeter 7 = Final Exit — A/C = Custom circuits Circuit Attributes 1 = Access — 9 = Chime 2 2 = Double Knock — A/C = Chime 3 3 = On Test — A/C = Inverted 4 = Omittable — A/C = Shuntable 5 = Reset — A/C = Beam Pair 6 = Activity — A/C = Eng. Test 7 = Entry — A/C = Monitored 8 = Chime 1 — A/C = Non Latching B = Toggle attribute between YES/NO Wards 1 - 8 = Select/deselect wards displayed A/C = Toggle wards A-H or I-P B = Select/deselect all wards
5	**Program System Timers** Exit time wards A-P — Monitor cct time Entry dly wards A-P — Beam pair time Digi dly wards A-P — Battery test dur Bell dly wards A-P — Answer ring time Bell dur wards A-P — Global bell dly Exit settle time — Global bell dur 2nd Entry delay — Activity delay Double Knock dly — Defer setting by Abort duration — Battery test Abort delay — Hi Security time 2nd alarm time — Cct test time Courtesy time — Service time Access code time — Payment time Menu time-out — Test call every Line fault delay — Select menu time AC off delay — Custom o/p 2 Tmr
6	**Program Setting Modes** A/C =Select ward 1 = Final Exit 2 = Exit Terminator 3 = Timed Exit 4 = Instant 5 = Deferred

Hotkey	Options
7	**System Print-out** 0 = Custom text — 8 = Code locks 1 = Modem data — 9 = Auto-set times 2 = User codes — A/C = Custom Circuits 3 = Configuration — A/C = Circuits 4 = Outputs — A/C = Equipment wards 5 = Setting modes — A/C = Net equipment 6 = System timers — A/C = Part set groups 7 = Time switches
8	**Program System Options** Number of rearms — Remote resets Modem rings — Reset algorithm Keys until tamp — Double Knocks
9	**Program Configuration** 00 = Bell is an SAB / Bell is an SCB 01 = View alms P.Set / View alms unset 02 = Duress Disabled / Duress Enabled 03 = Engr Authorised / User Authorised 04 = On-Line Enabled / On-Line Disabled 05 = Lo-sec Engineer / Hi-sec Engineer 06 = Normal answer / Timed answer 07 = Unset ward first / Set ward first 08 = Can set with L.F / No set with L.F 09 = Can set - AC off / No set - AC off 10 = Quiet chimes / Loud chimes 11 = O/P 1 normal / O/P1 inverted 12 = Digi normal / digi inverted 13 = 4 digit codes / 6 digit codes 14 = Modem on Com1 / Printer on COM1 15 = Chime Audible / Chime Visible 16 = Manual Omits / Automatic Omits 17 = Omit Tampers No / Omit Tampers Yes 18 = O/M's mimic cct / O/M's mimic alms 19 = Log Time & Date / Log Time & Day 20 = Global Setting / Local Setting 21 = Global Unsetting / Local Unsetting 22 = 24hr Omit Global / 24hr Omit Local 23 = Ward bell time / Global bell time 24 = Latching Fire / Nonlatching Fire 25 = Online Printing / Offline Printing 26 = Timed code o/p / Latched code o/p 27 = Activity flt ok/ Activity flt Bar 28 = Latching 24hr / Nonlatching 24hr 29 = Access code only / Access all codes 30 = Answer anytime / Answer o/p 1 on 31 = NVM is Unlocked / NVM is Locked 32 = Unshunt & No exit / Unshunt & exit 33 = Ignore errors / View exit errors 34 = Mimic, All times / Mimic, set only B = Toggle between two options
A	**View Location Text** 1 = Panel Location — 2 = Remote Location
B	**Default NVM data** 0 = Custom text — 8 = Code locks 1 = Modem data — 9 = Auto-set times 2 = User codes — A/C = Custom Circuits 3 = Configuration — A/C = Circuits 4 = Outputs — A/C = Equipment wards 5 = Setting modes — A/C = Net equipment 6 = System timers — A/C = Part set groups 7 = Time switches — A/C = Log
C	**Log Off Engineer**
0	**Goto User Menu 1** 1 = Bell Test — 6 = 24hr Omit 2 = Walk Test — 7 = Omit Circuits 3 = Remote Reset — 8 = Silent Set Wards 4 = Change code — 0 = Set/Unset Menu 5 = Select Chime

Engineers Menu 2

Hotkey	Option
1	**View Circuits** A/C = Scroll up and down ENT = Toggle text / location
2	**Set System Time** B = Toggle BST / GMT
3	**Set System Date**
4	**Change Passcode (Engineers)**
5	**Alter Chime Circuits** A/C = Scroll up and down ENT = To edit 1 = Chime tone 1 2 = Chime tone 2 3 = Chime tone 3 0 = Disabled
6	**Alter 24hr Group** 1 - 8 = Select/deselect wards displayed A/C = Toggle wards A-H or I-P B = Select/deselect all wards
7	**Print System Log**
8	**Alter Circuit Wards** A/C = Scroll up and down ENT = To edit 1 - 8 = Select/deselect wards displayed A/C = Toggle wards A-H or I-P B = Select/deselect all wards
9	**View System Log** A/C = Scroll up and down B = Toggle user name / No B = Toggle event / ward B = Toggle circuit No / circuit text
A	**Start Call Back Sequence** 1 = Call Back No 1 2 = Call Back No 2 3 = Call Back No 3 B = Enter number required ENT = Start call back sequence
B	**Reset User Code 1** ENT = Reset user 1 to 5678
C	**Set BST/GMT Dates**
0	**Remote Service Options** B = Toggle Enabled / Disabled

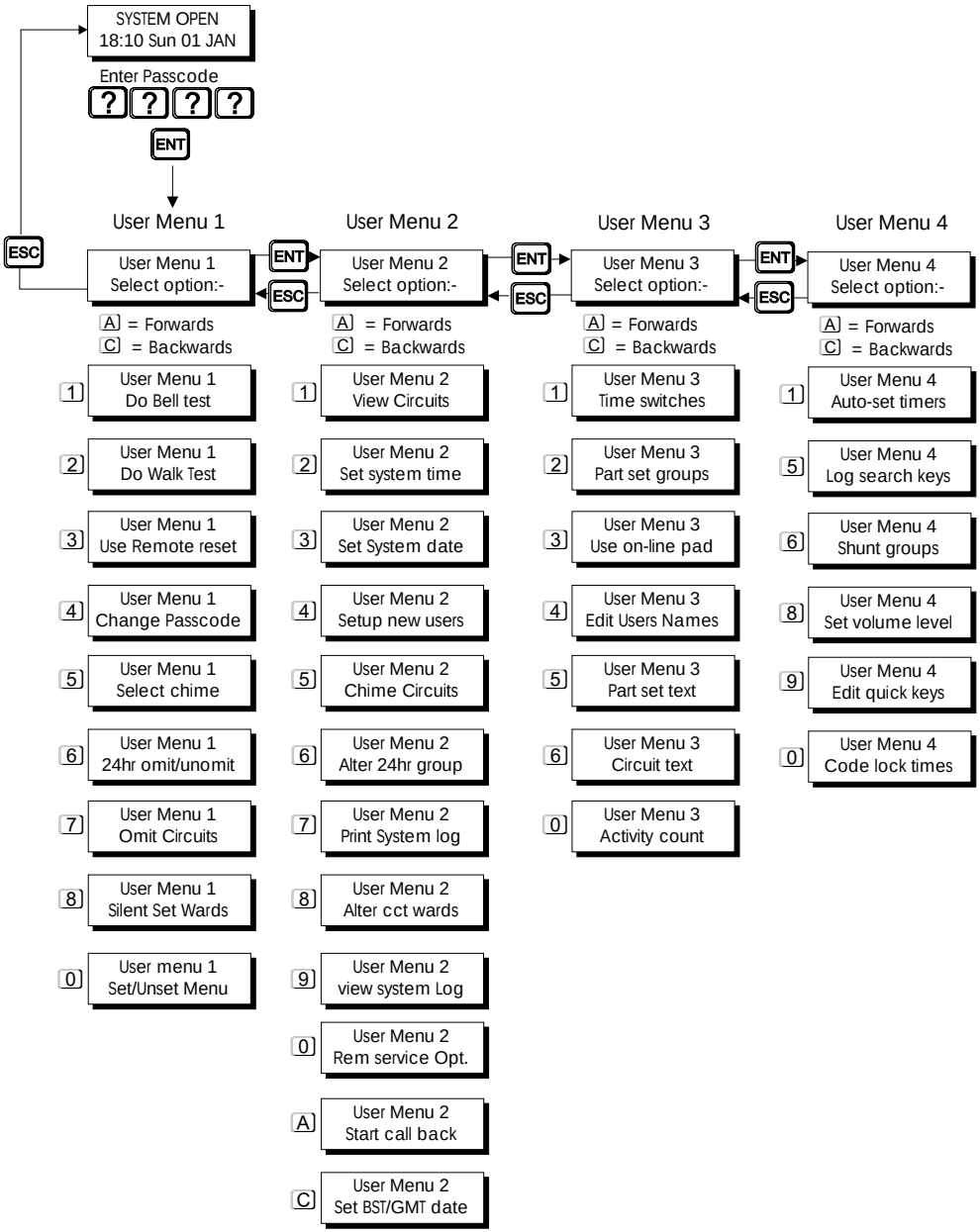
Engineers Menu 3

Hotkey	Option
1	**Program Time Switches** A = Time switch 1 — 1 = On Time 1 B = Time switch 2 — 2 = On Time 2 C = Time switch 3 — 3 = On Time 3 4 = Off Time 1 — 7 = 1st operates on 5 = Off Time 2 — 8 = 2nd operates on 6 = Off Time 3 — 9 = 3rd operates on 0 = Manually switch output
2	**Part Set Groups** 1 - 9/0 = Select part set group ENT = Edit
3	**Use On-Line Keypad**
4	**Edit User Names** A/C = Scroll up and down ENT = Edit text
5	**Part Set Text** 1 - 9/0 = Select part set group ENT = Edit text
6	**Circuit Text** A/C = Scroll up and down ENT = Edit text
7	**Custom Text Menu** 0 = Reset message — 5 = Banner message 1 = Location text — 6 = Part set banner 2 = Printer header — 7 = Aux. Tamper 1 3 = Rem reset msg — 8 = Aux. Tamper 2 4 = Printer prefix — 9 = Modem string
8	**Equipment Outputs** A/C = Scroll up and down B = Toggle output A / B
9	**Built In Tests** Software Version 1 = Voltage 2 = Current 3 = Circuit Resistance 4 = Digicom Outputs (Panel) 5 = Test panel outputs 6 = Test NODE outputs 7 = Confirm Network devices 8 = Test Keypad display 9 = View Network devices A/C = Network errors A/C = False setting routine A/C = Test digicom channels (Plug-on)
A	**Custom Outputs**
B	**Custom Circuits** 1 - 8 = Select custom output 1 - 8 ENT = Edit 1 = Toggle unset — A/C = Bell required 2 = Toggle part set — A/C = Digi required 3 = Toggle set — A/C = Sounder required A/C = Warning required A/C = Trig Custom o/p
C	**Digi-modem Options** 1 = Call back No 1 — 6 = Program digicom 2 = Call back No 2 — 7 = Digi Baud rate 3 = Call back No 3 — 8 = COM1 Baud rate 4 = Modem password — 9 = Internal digicom 5 = Modem site No — 0 = Reset digicom
0	**Activity Count** A/C = Scroll wards B = Reset counter

Engineers Menu 4

Hotkey	Option
1	**Auto-set Timers** A = Timer 1 B = Timer 2 C = Timer 3 4 = Unset Time 1 5 = Unset Time 2 6 = Unset Time 3 1 = Set Time 1 2 = Set Time 2 3 = Set Time 3 7 = 1st operates on 8 = 2nd operates on 9 = 3rd operates on ENT = Select wards 0 = Manually switch output
2	**Network Equipment Wards** A/C = Scroll up and down ENT = Edit wards 1 - 8 = Select/deselect wards displayed A/C = Toggle wards A-H or I-P B = Select/deselect all wards
3	**Equipment Wards** 1 = Panel tamper 2 = Bell box tamper 3 = Aux 1 tamper 4 = Aux 2 tamper 5 = Phone line fault 6 = Mains power off 7 = Payment timer 8 = Alarms Eng Reset 9 =Tamper Eng Reset A/C = Remote reset A/C = Panel speaker A/C = Relearn required A/C = Re-arms apply to A/C = Hi Security ward A/C = Digi in Part Set A/C = System Bell/STB A/C = Ward A foyer Mode A/C = Unset fire sig. A/C = Dble Knock wards
4	**Unset Circuit Types** Circuit Types 0 = Not Used 1 = Night 2 = 24 Hour 3 = PA Silent 4 = PA Audiible 5 = Fire 6 = Auxiliary 7 = Final Exit 8 = Exit Terminator 9 = Ward Key A/C = Shunt Key A/C = Tamper A/C = Security A/C = 24hr Silent A/C = Night Perimeter A/C = Custom circuits
5	**Log Search Keys**
6	**Shunt Groups**
7	**OM Configuration** 1 = Mimic options 2 = CCT options
8	**Set Volume Level** A/C = Increase / Decrease
9	**Edit Quick Set Keys** A/B/C = Quick set key A/B/C 1 - 9 = Select part set group 0 = Disabled
0	**Code Lock Timers** A = Codelock 1 B = Codelock 2 C = Codelock 3 4 = Off Time 1 5 = Off Time 2 6 = Off Time 3 1 = On Time 1 2 = On Time 2 3 = On Time 3 7 = 1st operates on 8 = 2nd operates on 9 = 3rd operates on ENT = Select users 0 = Manually switch output
A	**Engineers Wards**

Quick Reference User Menus


SYSTEM OPEN
18:10 Sun 01 JAN
Enter Passcode
? ? ? ?
ENT
ESC
User Menu 1
User Menu 1 Select option:-
A = Forwards
C = Backwards
1 User Menu 1 Do Bell test
2 User Menu 1 Do Walk Test
3 User Menu 1 Use Remote reset
4 User Menu 1 Change Passcode
5 User Menu 1 Select chime
6 User Menu 1 24hr omit/unomit
7 User Menu 1 Omit Circuits
8 User Menu 1 Silent Set Wards
0 User menu 1 Set/Unset Menu
User Menu 2
User Menu 2 Select option:-
A = Forwards
C = Backwards
1 User Menu 2 View Circuits
2 User Menu 2 Set system time
3 User Menu 2 Set System date
4 User Menu 2 Setup new users
5 User Menu 2 Chime Circuits
6 User Menu 2 Alter 24hr group
7 User Menu 2 Print System log
8 User Menu 2 Alter cct wards
9 User Menu 2 view system Log
0 User Menu 2 Rem service Opt.
A User Menu 2 Start call back
C User Menu 2 Set BST/GMT date
User Menu 3
User Menu 3 Select option:-
A = Forwards
C = Backwards
1 User Menu 3 Time switches
2 User Menu 3 Part set groups
3 User Menu 3 Use on-line pad
4 User Menu 3 Edit Users Names
5 User Menu 3 Part set text
6 User Menu 3 Circuit text
0 User Menu 3 Activity count
User Menu 4
User Menu 4 Select option:-
A = Forwards
C = Backwards
1 User Menu 4 Auto-set timers
5 User Menu 4 Log search keys
6 User Menu 4 Shunt groups
8 User Menu 4 Set volume level
9 User Menu 4 Edit quick keys
0 User Menu 4 Code lock times

Fault Finding

The TS2500 has various diagnostic functions to help you in fault finding on the system. To access these functions go to Engineer's Menu 3 option 9. The most useful of these functions are:- Confirm Network devices, View Network Devices and Network Errors. Please refer to page 22 for more details.

One of the most difficult of faults to find is when the control panel loses communication with an item of remote equipment, for example an XNODE. This may be caused by one of the following problems: network equipment faulty, power supply faults, earthing faults, or cabling faults.

1. Use Network Errors to check if you have any data problems. The keypad displays the location of the last device problem, for example:

   NETWORK 1 0010
   LAST ERROR 2,07

2. Press 0 to reset the error counter.
3. Power down and disconnect the NODE indicated in the display (2,07 in the example shown above). Replace the device that has gone missing and power up.
4. Repeat steps 1 and 2 to check whether there are any data errors. If there are no errors then the NODE you have replaced was faulty.
5. If there are still errors then the problem may be with the previous NODE or cabling faults.

If you cannot isolate the fault to one item of equipment it is possible that the dc power supply to the remote equipment is low. Starting at the end of the network farthest from the panel put your meter to low DC and connect the red lead to A and the black lead to B. The meter should read at least 12V all along the network line.

If the meter reads less than 12V then you may need to decrease the resistance of the cables by doubling up, or adding a remote power supply.

If the power supply voltage is adequate check for earthing faults. Set your meter to low ac and connect the black lead to earth and the red lead first to A and then to B.

The meter should read no higher than 1V. If the reading is higher then you have ac hum on the dc line. Fit an appropriate filter.

While the black lead is still connected to earth set the meter to low dc. Connect the red lead to A and then to B.

If the meter shows a stable reading greater than about 0.5V then you may have a short to earth. Disconnect A and B from panel and retest for earth faults on cables if no earth faults the pcb is earthed elsewhere.

Please note that some power supplies have a grounded printed circuit board. If one of these is connected to your network then you will have earthing problems. We recommend using our PS1 and 519.XB power supplies.

If none of the problems above exist then check the continuity of the cable.

If all else fails then power down the panel and connect a single XNODE to the panel on a short length of cable. Power up the panel, the keypads display the "Relearn Required" message. Confirm that only one device is connected, as described in the TS2500 Installation Manual. Check again for network errors. If the keypad still displays network errors then power down again and connect the XNODE to another network. Power up, confirm that only one XNODE is connected and check again for network errors. If the errors have gone then the control panel has got a faulty network.

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